

ABSTRACT

A lead-free bearing includes a bronze matrix powder metal bearing layer bonded to a steel backing a fully densified. The bearing material has about 8 to 12% by weight tin, about 1 to less than 5% by weight bismuth, and about .03 to .08% by weight phosphorus, with the balance being copper. The tin is soluble in the copper to yield the bronze matrix, and the bismuth exists as finely dispersed, undissolved islands through the matrix. Such bearings exhibit physical properties comparable to or better than those of traditional bronze-lead bearings and improved wear in seizure properties.